

**MODIS Technical Team Meeting**  
**Thursday, March 01, 2001**  
**3:00 PM**

Vince Salomonson chaired the meeting. Present were Gary Alcott, Mike Roberto, George Serafino, Skip Reber, Bruce Guenther, Bill Barnes, Sol Broder, Dorothy Hall, Bruce Ramsay, Wayne Esaias, Eric Vermote, Chris Justice, Ed Masuoka, Michael King, Bob Murphy, and Dave Toll, with Rebecca Lindsey taking the minutes.

**• Schedule of Upcoming Events**

- Terra Cloud Mask Conference May 8-9, 2001  
University of Wisconsin-Madison

**2.0 Meeting Minutes**

**2.1 Aqua Orbits**

Salomonson asked for the Team's input on three potential Aqua orbits that Al Chang, Deputy Project Scientist for Aqua, had asked each instrument team to consider. The team decided that "option three" would be preferable. This means the same WRS-2 would be used for Aqua, Terra and Landsat-7. This had been previously discussed and proposed by Wayne Esaias. This choice would allow for interesting day/night comparisons, especially of land surface temperatures and SST. This preference will be sent back to Al Chang with the indication that MODIS will be happy to discuss this further if the Project wants more input.

Next the group discussed the issue of how orbital adjustments would be made. Salomonson indicated that there were two options: to let the orbit drift from 1:30 to 1:45 equator crossing time, and bring it back in one long burn every three years or so; or to keep the orbit very close to 1:30 throughout the mission by using a series of small burns. His understanding was that fuel use is about the same, so the issue becomes a question of any science relevance. Vermote suggested that the same be done for Aqua as Terra, but Guenther pointed out that when a burn takes place on Terra, MODIS must close its aperture doors. Assuming a similar rule holds for Aqua MODIS, it would seem better to have to open and close the door fewer times. Overall, the amount of science data loss would be the same whether we close the doors many times for short periods or one longer time period. The group decided that one longer burn infrequently would be their preference.

**2.2 Instrument Update**

Salomonson asked Guenther about the 5 $\mu$ m leak as well as the problems with Band 26. Guenther reported that there are still sub-frame differences in Bands 5, 6, and 7, as well as stripes in 26 that are interfering with science. SRCA data collection is scheduled for

March 2 that will have variable SWIR and fixed MWIR signals. MCST hopes to have some ideas about the nature of the problem in three weeks. In addition, Guenther reported that MCST is a couple weeks away from getting a degradation model in the Reflective Solar Bands. They think they are seeing about 4 percent degradation in the SD in Band 8 and 5-8 percent in the rest of instrument at that wavelength. There is about a 2-3 percent mirror side difference in Bands 8, 9, 10; i.e., the two sides of the mirror are not degrading at the same rate. Unequal degradation such as this is usually the result of solarization or thin film absorption effects. MCST will deliver a draft of their findings by March 7<sup>th</sup>. Murphy asked what, if any, implications there were for the rotation vs. scan angle difference in the IR bands, and Guenther replied that he didn't think there were any implications.

### 2.3 GES DAAC Update

Alcott reported that EDOS input over past three weeks has had high reorder rate. Large chunks have been missing, i.e. 45 minutes at a time, or entire spacecraft contacts. He is working with them to resolve the problem, however the problem has temporarily slowed their production. He also reported that they have been shutting down production three days a week to push data to MODAPS at a higher rate. Given that they are processing between 2.5 and 3x, they can catch up production on the day after a shut down.

### 2.4 MODAPS Update

Masuoka reported that a chiller malfunction had shut down science systems on Wednesday, but that they were able to keep up with production. There may be a few glitches when things come back up. MODAPS still about 2 months behind the GES DAAC. They are currently shadow processing V1 and V2, and so far things look pretty good. When they get up through daily land products, they will switch over to V2 production. Only PGE 69 didn't run, and in general, PGEs and, more importantly, the tape drive seem to be running faster. MODAPS has been pushing data via the network to the science team, and that saturates the network. So they have been given a new path.

Masuoka also brought up the issue of releasing science code to the public, as he had received a call from a company called Global Imaging that was requesting it. This prompted a discussion about what the policy on public release of code was intended to be from the beginning of the project, and whether the intention had been to release everything indiscriminately. The consensus was that it was essential that if and when software was made available, it needed to be universally available. Justice suggested using Source Forge, which is a place for open source code. Salomonson commented that he had asked Bill Hatchl to look into the issue and provide some guidance.

### 2.5 Land Update

Justice reported that he had given a fire presentation at a meeting in Tokyo, and there was great interest for the fire products in South East Asia, which is anticipating a big burning season this year. People at the meeting were very interested in Direct Broadcast code, and

hopefully that will come out of the rapid response system that is being considered. Justice also reported that there would a MODIS fire demo at an upcoming CEOS meeting.

## 2.6 NOAA/NESDIS Update

Ramsay reported that he and Alan Strong, ORA, developed an initial MODIS products list for use in sizing MODIS data sets for the Satellite Active Archive and the National Climatic Data Center (NCDC) organized by Wayne Faas, NCDC. The consolidated list (see bulleted list below) was provided to Faas on 21 February 2001. Results of the test will be reported to the MTT.

- MOD02 Level-1B Calibrated, Geolocated Radiances (aerosol particle size)
- MOD04 Aerosol Product (aerosol optical depth)
- MOD05 Total Precipitable Water
- MOD06 Cloud Product (cloud optical depth, cloud particle size, cloud top temperature, cloud height)
- MOD07 Atmospheric Profiles (temperature and water vapor profiles)
- MOD08 Gridded Atmospheric Product (D3, E3, M3)
- MOD14 Thermal Anomalies, Fires and Biomass Burning (MOD14A1 (MODIS 8-Day Daily Composite Fire Product)
- MOD21 Chlorophyll\_a Pigment Concentration
- MOD33 Snow Cover; MOD10\_L2 (MODIS/Terra Snow Cover 5-Min L2 Swath 500m); MOD10A1 (MODIS/Terra Snow Cover Daily L3 Global 500m ISIN Grid)
- MOD42 Sea Ice Cover (MODIS/Terra Sea Ice Extent Daily L3 Global 1km EASE-Grid Night).
- An array of Ocean products

Ramsay requested feedback on orbital preferences for the NASA Aqua platform, per Al Chang's request, from the NOAA/NESDIS Product Oversight Panel Co-chairs for Calibration, Ocean Color, Earth Radiation Budget, Image, Cloud, Aerosol, Navigation, Ocean, Ozone, Precipitation, Soundings, Surface, Services, and Winds. Information will be forwarded to Salomonson.

## 2.7 Oceans Update

Esaias reported that Dennis Clark is at sea changing out MOBY bouys, and the Oceans team is meeting April 3-5 to discuss "golden year" code. They may slip on first delivery due to vacation plans, but things are still in hand. David Herring is making progress with the Oman SST press release. Esaias indicated that Oceans is very interested in getting information on NPP VIIRS, and Murphy indicated that a package should be ready April 30<sup>th</sup>.

## 2.8 General Discussion

Salomonson raised the issue of a MODIS results symposium, and the group decided that they would prefer a meeting separate from any other meeting sometime after the first of the year, in a location where there would be a good mix of users and providers.

In addition Salomonson suggested that the team prepare a presentation that would address the complexities of MODIS data processing, so that information is available to Jim Dodge, Diane Wickland, and others at NASA Headquarters to help them as they prepare plans for the recompile.

## 3.0 Action Items

### Action Items Carried Forward

3.1 Masuoka to update a chart that has quantifiable information about how much processing resources are being used for current production. (King requested actual FLOPS).

Status: Closed.

3.2 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.4 Masuoka to send Mark Gray a copy of the code-porting guide for MODAPS's transition to Linux.

Status: Open.